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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/236,350	01/25/1999	ISAMU UENO	35.C13282	1615

5514 7590 05/21/2003

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EXAMINER

TOPPIN, CATHERINE J

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/236,350

Applicant(s)

UENO ET AL.

Examiner

Catherine Toppin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 11-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8,38 and 39 is/are rejected.
- 7) ☐ Claim(s) 9 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 02 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Dyck (US 6529239.) As for claims 1 and 38, Dyck teaches an image sensor for use in an image pickup apparatus comprising: a plurality of pixels, a color filter array of four colors wherein said color filter array has a periodicity of two rows x two columns (see column 4, lines 56-57), wherein colors of color filters in a periodical unit of two rows x two columns are all different from each other and have fixed positions. (See figure 5.)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 2-8 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dyck in view Ukita (US 6323901.) As for claim 2 and 39, Dyck teaches a CCD filter array with two x two periodical unit, wherein the four color filters are all different from each other and have fixed positions as above. Dyck however, does not disclose a color filter array with the periodical unit as claimed. Ukita teaches such a periodical unit (Cy, Ye, Mg, and G.) (See figure 2.) Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teaching of Dyck to any periodical color filter array unit, in order to perform image processing on color signals.

6. As for claim 3, Ukita teaches the claimed operation $A + B - C - D$ in the calculation of the luminance signal (in column 15, line 27-28) where Mg, G, Ye and Cy correspond to A, B, C, and D respectively. As for claim 4, signals A and B and C and D are shown to be disposed on the same line or column. (See figure 2.) As for claims 5, Ukita also teaches the claimed operation $A + C - B - D$ where A, B, C, and D correspond to the color signals as discussed above. As for claims 6, figure 2 similarly shows the signals as disposed on a same line or same column as claimed. As for claim 7, the reading means claimed are not distinct from the operations of claims 3 and 5. The examiner interprets the two means for reading a difference between the addition signals as claimed as equivalent to the operations $A + B - C - D$ and $A + C - B - D$ respectively and are rejected for reasons discussed above. It would have been obvious to apply the luminance and color difference teaching Ukita described in claims 3-7 to the apparatus of Dyck in order to restrict a ghost color signal at edges of an image and improve picture quality. As for claim 8, Ukita discloses the area of two rows x two columns as disposed without any space therebetween. (See figure 2.)

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Allowable Subject Matter

7. Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: As for claim 9, prior art teaches the use of an image pickup apparatus according to claim 1, but is silent on the issue of means for reading an addition signal of all signals in an area of four rows x one column. As for claim 10, prior art is furthermore silent on the issue of means for reading an addition signal of all signals in an area of one row x four columns.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miyahara (US 6559886) teaches a base unit of four different colors for an array and also teaches finding the luminance signal difference along with other filter processing equations.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Toppin whose telephone number is (703) 305-8144. The examiner can normally be reached on Monday-Friday 8:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is (703) 306-0377.

CJT
May 12, 2003


WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600